WHAT IS CLAIMED IS:

1. An apparatus for processing a substrate, comprising:

a) an indexer portion comprising

a downside structure comprising a transfer robot for transferring a substrate from/to a carrier capable to hold a plurality of substrates, and

an upside structure defined above said downside structure and comprising upside processing sections of different types horizontally separated from each other and operable to apply processing to said substrate; and

b) a processing portion comprising

an arrangement of processing units for applying a series of processing to said substrate transferred from said transfer robot, and

a transport robot for transporting said substrate between said arrangement of processing units.

2. The apparatus in accordance with claim 1, wherein

said indexer portion and said processing portion are arranged in a first horizontal direction X,

said transfer robot is horizontally movable along a second horizontal direction Y, and

said processing sections are arranged in said second horizontal direction Y.

3. The apparatus in accordance with claim 2, wherein

said arrangement of processing units comprises

a first set of processing units, and

a second set of processing units arranged at a higher level than said first set of processing units,

said upside structure being substantially at a same level as said second set of processing units.

4. The apparatus in accordance with claim 3, wherein

said transport robot is operable to access to not only said arrangement of processing units but also said upside processing sections.

5. The apparatus in accordance with claim 1, wherein

said upside processing sections comprises

a first section for applying a first dry-type processing to said substrate, and

a second section for applying a second dry-type processing to said substrate.

6. The apparatus in accordance with claim 5, wherein

said first section is a thermal section including a plurality of thermal processing units, and

said second section is an optical section including an edge exposure unit for exposing an edge of said substrate.

7. The apparatus in accordance with claim 6, wherein

said plurality of thermal processing units are arranged into at least one stack of thermal units.

8. The apparatus in accordance with claim 7, wherein

each stack of thermal units includes

cooling units each operable to cool said substrate, and

heating units stacked on said cooling units and each operable to heat said substrate.

9. An apparatus for processing a substrate, comprising:

a) an indexer portion comprising

a downside structure comprising a transfer robot for transferring a substrate from/to a carrier capable to hold a plurality of substrates, and

an upside structure defined above said downside structure and comprising an inspection section operable to inspect said substrate; and

b) a processing portion comprising

an arrangement of processing units for applying a series of processing to said substrate transferred from said transfer robot, and

a transport robot for transporting said substrate between said arrangement of processing units.

10. The apparatus in accordance with claim 9, wherein

a plane area of said upside structure projected onto a horizontal plane is included in a plane area of said downside structure projected onto said horizontal plane.

11. The apparatus in accordance with claim 10, wherein

said upside structure is provided in a location out of a range in which said transfer robot moves for transferring substrate between said carrier and said processing portion.

12. The apparatus in accordance with claim 11, wherein

said downside structure comprises a carrier stage on which a plurality of carriers each containing a plurality of substrates are aligned, and

said upside structure is provided over an alignment of said plurality of substrates.

13. The apparatus in accordance with claim 9, wherein

said inspection section comprises a plurality of inspection units horizontally separated with each other across a gap space, and

said transfer robot is operable to access to each inspection unit from said gap space.

14. The apparatus in accordance with claim 9, wherein

a clean air outlet is provided under said inspection section to supply clean air to said downside structure.

15. The apparatus in accordance with claim 9, wherein

said inspection section includes at least one of:

a resist thickness measurement unit for measuring thickness of resist formed on said substrate;

a pattern line width measurement unit for measuring line width of lines formed on said substrate;

a pattern superposition measurement for measuring superposition of circuit patterns formed on said substrate; and

a macro defect inspection for detecting macro defect on said substrate.

16. The apparatus in accordance with claim 9, wherein

said inspection section includes

a complex inspection unit for measuring thickness of resist formed on said substrate, line width of lines formed on said substrate, and for measuring superposition of circuit patterns formed on said substrate, and

a macro defect inspection unit for detecting macro defect on said substrate.